OIPE JC23
DEC 08 1997
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application for Reissue of:		§	
Patent No. 5,443,833		§	
		§	
Patentees:	ANDREW R. CLARK	§	
	PAUL WRIGHT	§	
	JULIA H. RATCLIFFE	§	Attorney Docket No.: 2553.004
		§	
Assignee:	Fisons, plc	§	
		§	
Issued:	August 22, 1995	§	
		§	
For:	PHARMACEUTICAL COMPOSITIONS	§	

REISSUE DECLARATION OF JULIA RATCLIFFE UNDER 37 C.F.R. 1.63 AND 1.175(a)

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

As a below-named inventor, I hereby declare:

1. My residence, post office address, and citizenship are as stated below, underneath my name.

2. I verily believe Andrew R. Clark, Paul Wright, and Julia H. Ratcliffe to be the original, first, and joint inventors of the subject matter which is claimed in original Letters Patent No. 5,443,833 granted August 22, 1995, based upon Application Serial No. 08/082,804 filed June 25, 1993 as a continuation of Application Serial No. 07/742,574 filed August 7, 1991, now abandoned, which is a continuation of Application Serial No. 07/410,020 filed September 20, 1989,

now abandoned, which is a continuation of Application Serial No. 07/133,520 filed December 16, 1987, now abandoned, and Andrew R. Clark, Paul Wright, and Julia H. Ratcliffe to be the original, first, and joint inventors of the subject matter of the invention claimed in the application for a reissue patent filed August 21, 1997.

3. As set forth in my original Declaration for Patent Application, I claim foreign priority benefits under Title 35 United States Code, § 119 of the following foreign applications for patent or inventors certificate and have also identified below any foreign application for patent or inventors certificate having a filing date before that of the application on which priority is claimed:

Great Britain - 86/30767, filed December 23, 1986 - Priority claimed
Great Britain - 86/30769, filed December 23, 1986 - Priority claimed
Great Britain - 86/30904, filed December 24, 1986 - Priority claimed
Great Britain - 87/06684, filed March 20, 1987 - Priority claimed

4. At the time US Application Serial No. 07/133,520 was filed, I was an employee of Fisons, plc, of Ipswich England. In 1986 or 1987, I left the employ of Fisons plc.

5. I have reviewed and understood the contents of the specification, including the claims, of this reissue application.

6. I do not know and do not believe that said invention was ever known or used in the United States before my invention thereof.

7. I verily believe the original patent to be wholly or partly inoperative or invalid by reason of claiming less than I had a right to claim in the patent because claims for the use of the aqueous pharmaceutical solution of original claims 1-3 in the method of treating ophthalmic conditions and controlling the symptoms of ophthalmic conditions were erroneously canceled. When I filed my original application the intended utilities of the claimed aqueous pharmaceutical

solution containing as active ingredient, 9-ethyl-6, 9-dihydro-4, 6-dioxo-10-propyl-4H-pyrano(3,2g)quinoline-2, 8 dicarboxylic acid, or a pharmaceutically acceptable salt thereof, included methods of treating a disease or condition selected from the group consisting of conjunctivitis, keratitis, "allergic eyes," and anterior uveitis, which comprises administering to the eye an effective amount of an ophthalmically acceptable aqueous pharmaceutical solution; and methods of controlling the symptoms of conjunctivitis comprising administering to the eye of a patient having conjunctivitis an effective amount of nedocromil sodium in an ophthalmically acceptable formulation. This is illustrated in the body of the original patent, for example col. 1, lines 34-44. In fact, upon information and belief, claims related to a method of treating ophthalmic conditions and those symptoms, were included throughout much of the prosecution of the above referenced applications. Original claims 1-3, the only claims in this patent, do not claim these utilities. I do not have personal knowledge why the aspect of the claims related to the method of treating ophthalmic conditions was canceled. Further I was not consulted when this aspect of the claims was canceled. In fact, I do not recall having any substantive involvement in the prosecution of the applications leading to the issuance of the original patent after I left the employ of Fisons plc.

8. Upon information and belief, this error arose because the Fisons attorney in charge of handling the prosecution of my application failed to continue prosecution of claims directed at methods of treating ophthalmic diseases and conditions after the examiner had allowed claims directed at treating reversible obstructive airways disease. Upon information and belief, in the original application, and during the prosecution of Application Serial No. 08/082,804, claims reciting methods of treating various types of conditions, including ophthalmic conditions were submitted. Upon information and belief, the Examiner's remarks in the Final Office Action of Application

Serial No. 08/082,804 were directed to the formulation of the aqueous pharmaceutical solution claimed in the invention in the treatment of reversible obstructive airways disease. However, upon information and belief, all of the pending claims in the application were canceled in an Amendment after the final rejection filed February 13, 1995, including those for methods of treating and controlling the symptoms of ophthalmic conditions, and three new claims unnecessarily limited to methods of treating reversible obstructive airways disease were submitted. These three new claims issued as claims 1-3 in U.S. Patent No. 5,443,833 on August 22, 1995.

9. Upon information and belief, this error occurred due to a failure of the Fisons attorneys to continue prosecution of claims for methods of treating and controlling symptoms of ophthalmic conditions. At the time the error occurred, I was not involved in decisions relating to the prosecution of the application and therefore, all actions relating to the prosecution was made by the Fisons' attorneys. Upon information and belief, the failure to continue prosecution of claims directed at a method for treating ophthalmic conditions may have been the result of internal turmoil within Fisons plc. Upon information and belief, during 1995, Fisons plc was acquired by Rhone-Poulenc Rorer, Inc. and a number of Fisons employees left the company in this time frame. As explained above, I left the employ of Fisons before the amendment was made. I am informed that the declaration of Alison Blakey was submitted to more fully explain the error.

10. This error that rendered this patent wholly or partly inoperative arose entirely from inadvertence, accident, and mistake, and without any fraudulent and/or deceptive intent on my part, or, on my best information and belief, without any fraudulent and/or deceptive intent on the part of Paul Wright, Andrew Clark or anyone else associated with me.

11. As a result of the Fison's attorneys' erroneous conclusion or decision, the patent is wholly or partly inoperative or invalid by reason of claiming less than I had a right to claim in the patent because original claims 1-3 do not recite the use of the aqueous pharmaceutical solution of original claims 1-3 for use in methods of treating ophthalmic conditions and controlling the symptoms of ophthalmic conditions.

12. Upon information and belief this error was discovered in 1997, during license negotiations for the use of the aqueous pharmaceutical solution claimed in original claims 1-3 for methods of treating ophthalmic diseases and controlling the symptoms of ophthalmic conditions. Upon information and belief, a review of the specification of this patent by the potential licensee revealed support for claims for methods of treating and controlling the symptoms of ophthalmic conditions. Upon information and belief, the potential licensee then reviewed the file history and the prior art cited and relied upon by the Examiner during the prosecution of U.S. Patent No. 5,443,833, and concluded that the claims for methods of treating and controlling symptoms of ophthalmic conditions were patentable. Of course this is consistent with my belief that the subject matter was new and therefore patentable. In fact, as evidence that an error did in fact occur, upon information and belief, all relevant prior art was cited to the European Patent Office and successfully overcome to establish patentability of claims for methods of treating reversible obstructive airways disease, as well as for methods of treating and controlling the symptoms of ophthalmic conditions.

13. The error of canceling claims which recite the use of the aqueous pharmaceutical solution containing as active ingredient, 9-ethyl-6, 9-dihydro-4, 6-dioxo-10-propyl-4H-pyrano(3,2g)quinoline-2, 8 dicarboxylic acid, or a pharmaceutically acceptable salt thereof, as claimed in original claims 1-3, which included methods of treating and controlling the symptoms

of ophthalmic conditions is remedied in this reissue application because reissue claims 4-13 recite the use of the aqueous pharmaceutical solution of original claims 1-3 for use in the methods of treating and controlling the symptoms of ophthalmic conditions. Therefore, there is a difference in the scope of the claims 1-3 of U.S. 5,443,833 and the reissue claims. The following identifies all of the reissue claims presently in this application and the differences, if any, between the reissue claims and original claims 1-3:

a. Reissue claims 1-3 are identical to original claims 1-3 issued in this patent.

b. Reissue claim 1 recites the method of treating reversible obstructive airways disease comprising administering, by inhalation, to a patent suffering from, or susceptible to, such a condition the nebulized contents of an ampoule of carbon dioxide permeable plastics material filled with a unit dose of an aqueous pharmaceutical solution containing, as active ingredient, from 0.1 to 5% w/v of 9-ethyl-6, 9-dihydro-4, 6-dioxo-10-propyl-4H-pyrano(3,2g)quinoline-2, 8 dicarboxylic acid, or a pharmaceutically acceptable salt thereof, the solution having a pH of 3.5 to 6.0. Reissue claim 1 is identical to original claim 1.

c. Reissue claim 2 is dependent on reissue claim 1 with the further limitation that the concentration of the active ingredients in the solution is from 0.1 to 1.0% w/v. Reissue claim 2 is identical to original claim 2.

d. Reissue claim 3 is dependent on reissue claim 1 with the added limitation that the active ingredient is nedocromil sodium. Reissue claim 3 is identical to original claim 3.

e. Reissue claim 4 is an independent claim which recites the method of treatment for a disease selected from the group consisting of conjunctivitis, keratitis, "allergic eyes," and anterior uveitis, which comprises administering to the eye an effective amount of an ophthalmically

acceptable aqueous pharmaceutical solution containing an active ingredient 9-ethyl-6, 9-dihydro-4, 6-dioxo-10-propyl-4H-pyrano(3,2g)quinoline-2, 8 dicarboxylic acid, or a pharmaceutically acceptable salt thereof. Reissue claim 4 differs from original claims 1-3 because reissue claim 4 recites the use of an ophthalmically acceptable aqueous solution of pharmaceutical solution containing an active ingredient of 9-ethyl-6, 9-dihydro-4, 6-dioxo-10-propyl-4H-pyrano(3,2g)quinoline-2, 8 dicarboxylic acid, or a pharmaceutically acceptable salt thereof in the method of treating a disease selected from the group consisting of conjunctivitis, keratitis, "allergic eyes," and anterior uveitis, a utility not claimed in original claims 1-3. Reissue claim 4 also differs from original claims 1-3 because reissue claim 4 recites administering to the eye an effective amount of an ophthalmically acceptable aqueous pharmaceutical solution. Reissue claim 4 does not recite administering the pharmaceutical solution by inhalation, the nebulized contents of an ampoule of carbon dioxide permeable plastics material filled with a unit dose of the aqueous pharmaceutical solution. Further, reissue claim 4 differs from original claims 1-3 because reissue claim 4 does not require the active ingredient in the ophthalmically acceptable aqueous pharmaceutical solution to be present in a concentration from 0.1 to 5.0% w/v or for the ophthalmically acceptable aqueous pharmaceutical solution to have a pH of 3.5 to 6.0.

f. Reissue claim 5 is dependent on reissue claim 4 with the added limitation that the disease to be treated by the method in claim 4 is conjunctivitis. Reissue claim 5 differs from original claims 1-3 because reissue claim 5 recites the method of treating conjunctivitis, a utility not claimed in original claims 1-3.

g. Reissue claim 6 is dependent on reissue claim 5 with the added limitation that the disease to be treated by the method in reissue claim 5 is seasonal allergic conjunctivitis. Reissue

claim 6 differs from original claims 1-3 because reissue claim 6 recites the method of treating seasonal allergic conjunctivitis, a utility not claimed in original claims 1-3.

h. Reissue claim 7 is dependent on reissue claim 5 with the added limitation that the disease to be treated by the method in reissue claim 5 is allergic conjunctivitis. Reissue claim 7 differs from original claims 1-3 because reissue claim 7 recites the method of treating allergic conjunctivitis, a utility not claimed in original claims 1-3.

I. Reissue claim 8 is dependent on reissue claim 5 with the added limitation that the disease to be treated by the method in reissue claim 5 is vernal conjunctivitis. Reissue claim 8 differs from original claims 1-3 because reissue claim 8 recites the method of treating vernal conjunctivitis, a utility not claimed in original claims 1-3.

j. Reissue claim 9 is a multiple dependent claim dependent on reissue claims 4, 5, 6, 7, or 8 with the added limitation that the active ingredient is nedocromil sodium. Reissue claim 9 differs from original claims 1-3 because it recites the use of nedocromil sodium as the active ingredient in the method of treating a disease selected from the group consisting of conjunctivitis, seasonal allergic conjunctivitis, allergic conjunctivitis, vernal conjunctivitis, keratitis, "allergic eyes," and anterior uveitis, a utility not claimed in original claims 1-3.

k. Reissue claim 10 is an independent claim which recites a method of controlling the symptoms of conjunctivitis comprising administering to the eye of a patient having conjunctivitis an effective amount of nedocromil sodium in an ophthalmically acceptable formulation. Reissue claim 10 differs from original claims 1-3 because reissue claim 10 recites a method of controlling the symptoms of conjunctivitis, a utility not claimed in original claims 1-3. Reissue claim 10 also differs from original claims 1-3 because reissue claim 10 does not contain

limitations on the concentration of the active ingredient in the aqueous pharmaceutical solution or the pH of the aqueous pharmaceutical solution. Further, reissue claim 10 recites "administering to the eye an effective amount of nedocromil sodium in an ophthalmically acceptable formulation," whereas original claims 1-3 recite "administering, by inhalation,. . .the nebulized contents of an ampoule of carbon dioxide permeable plastics material filled with a unit dose" of the aqueous pharmaceutical solution.

l. Reissue claim 11 is dependent on reissue claim 10 with the added limitation that the symptoms of the disease to be controlled by the method of reissue claim 10 is vernal conjunctivitis. Reissue claim 11 differs from original claims 1-3 because reissue claim 11 recites the method of controlling the symptoms of vernal conjunctivitis, a utility not claimed in original claims 1-3.

m. Reissue claim 12 is dependent on reissue claim 10 with the added limitation that the symptoms of the disease to be controlled by the method of reissue claim 10 is allergic conjunctivitis. Reissue claim 12 differs from original claims 1-3 because reissue claim 11 recites the method of controlling the symptoms of allergic conjunctivitis, a utility not claimed in original claims 1-3.

n. Reissue claim 13 is dependent on reissue claim 10 with the added limitation that the symptoms of the disease to be controlled by the method of reissue claim 10 is seasonal allergic conjunctivitis. Reissue claim 13 differs from original claims 1-3 because reissue claim 13 recites the method of controlling the symptoms of seasonal allergic conjunctivitis, a utility not claimed in original claims 1-3.

14. I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information, of which I am aware, which is material to the patentability this application as defined in 37 C.F.R. 1.56 and 1.175(a)(7); and at this time bring the following U.S. Patents, Foreign patents and other publications to the attention of the U.S. Patent and Trademark Office:

US PATENTS

U.S. Patent 4,328,341
U.S. Patent 4,419,352
U.S. Patent 4,474,787
U.S. Patent 4,698,345
U.S. Patent 4,760,072
U.S. Patent 4,849,427
U.S. Patent 4,866,072
U.S. Patent 4,868,192

FOREIGN PATENTS

0004722 filed January 1983 - Japan
2022078 filed December 1979 - United Kingdom
2157291A filed April 1985 - United Kingdom

OTHER PUBLICATIONS

Patel, K.R. "Dose-Response Study of Sodium Cromoglycate in Exercise- Induced Asthma," Thorax, vol. 37, pp. 663-666.

Br. J. Clin. Pharmac. vol. 24, Oct. 1987, pp. 493-501, "The Pharmacokinetics of Nedocromil Sodium, a New Drug for the Treatment of Reversible Obstructive Airways Disease, in Human Volunteers and Patients With Reversible Obstructive Airways Disease."

J. Med. Chem. vol. 28, No. 12, 1985, pp. 1832-1842, American Chemical Society, H. Cairns, et al., "New Antiallergic Pyrano(3,2-g) quinoline - 2,8-dicarboxylic Acids with Potential for the Topical Treatment of Asthma."

P.H. List: "Arzneiformenlehre" Chapter Konservierungmittel pp. 369-373, 1976.

P.H. List: "Arzneiformenlehre: Chapter Augenarzneien pp. 400-410, 1976.

R. Voight: "Lehrbuch der pharmazcutischen Technologic", Chapter 27 Augentropfen, pp. 459-467, 1975.

Eur. J. Respir. Dis. (Suppl. 147) 1986, pp. 120-131, R. M. Auty: "The clinical development of a new agent for the treatment of airway inflammation, nedocromil sodium (Tilade)".

J. Allergy Clin. Immunol. vol. 79, No. 1, Feb. 19-25, 1987, p. 186, abstract 247. Schwartz et al. "Efficacy of hedocromil sodium. . . ragweed seasonal allergic rhimitis (SAR)".

J. Allergy Clin. Immuno. vol. 80, No. 2, Aug. 1987, pp. 218-222, Corrado et al. "The effect of nedocromil sodium on nasal provocation with allergan."

J. Allergy Clin. Imunol., vol. 81, No. 3, Mar. 1988, pp. 570-574 Ruhno et al. "Intranasal nedocromil sodium in the treatment of ragweed-allegic rhinitis."

Invest. Ophtalmol. Visual Sci. vol. 29, May 1-6, 1988, p. 229, Stockwell et al. "Dougle blind group comparative trial of 2% nedocromil . . . seasonal allergic conjunctivitis."

Pharmazie, vol. 37, No. 4, 1982, pp. 261-263 Pohloudck-Fabini et al. "Zur Stabilitat der Phenylquecksilbersalzc."

Journal of Pharmaceutical Sciences, vol. 65, No. 4, Apr. 1976, pp. 628-630, Grady et al. "Testing of heat sealing by thermal analysis."

R. Voight, "Lehrbuch der pharmazeutischen Technologic," 5th edition, 1984, pp. 554-557, Verlag Chemie, Weinheim, DE.

The listing above should not be construed as evidencing any belief that all of these references are prior art. In fact, these references are those that are cited on the face of U.S. Patent 5,443,883.

I therefore respectfully request that a Reissue Patent be granted to me for the invention or discovery described and claimed in said letters patent and in the foregoing specification and claims, and I subscribe my name to the foregoing petition, specification, and claims, and declaration and power of attorney.

I declare further that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements

were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application of any patent issuing thereon.

Julia Helena Ratcliffe
15 Ipswich Road
Woodbridge
Suffolk IP12 4BS
Citizenship: Great Britain

Date: 4/11/97

F:\CLIENT\2\2553\004\PTO\RATAFF.JTP